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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,794	03/13/2007	Herbert Brunner	12406-216US1 P2004,0241 U	2792
26161	7590	07/26/2010	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			SANDVIK, BENJAMIN P	
			ART UNIT	PAPER NUMBER
			2826	
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			07/26/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No. 10/593,794	Applicant(s) BRUNNER ET AL.	
	Examiner BENJAMIN P. SANDVIK	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-18,20 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-18,20 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 3/25/2010 have been fully considered but they are not persuasive. The applicant argues that Song teaches away from a reflector material being coated on a ceramic body. However, the cited portion of Song fully reads "An additional inclined surface made of resin may be formed on the vertical inside surface of the ceramic body, with a metal layer coated on the inclined resin surface in an effort to overcome the above-mentioned problems. However, the inclined resin surface may be easily deformed, so it is almost impossible to form a desired reflecting surface on the ceramic body." Song is referring to a specific configuration where the reflector is being coated onto an inclined resin surface that is easily deformed. Since this specific configuration is not present in the structure of Ishinaga or Roberts, the deficiencies cited by Song are not relevant to combination in the rejection of claim 1.

Furthermore, the applicant argues that Roberts does not teach that a ceramic body is coated with reflective material; particularly that "the use of a ceramic body is only an option which is not noted as being compatible with such a metal coating." The examiner maintains that since both metals and ceramics are disclosed as being capable embodiments for use as the base 204 then the coating step would apply to each of the embodiments. It is noted that Roberts also does not *specifically* note that a metal material base 204 is compatible with the reflective coating. Hence, there is not *explicit* evidence in the Roberts that a ceramic coated with reflector material is not an intended embodiment of the invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishinaga (U.S. Patent #6355946), in view of Roberts et al (U.S. Patent #6335548).

With respect to **claim 1**, Ishinaga teaches an optoelectronic component comprising a housing body and at least one semiconductor chip (Fig. 5, 3A; referenced from Fig. 3) disposed thereon, said housing body having a base part comprising a connector body (Fig. 5, 1A), on which a connecting conductor material is disposed (Fig. 5, 2a/2b), and having a reflector part comprising a reflector body (Fig. 5, 52), on which a reflector material is disposed (Fig. 5, 52a), wherein said connector body and said reflector body are preformed separately from each other and said reflector body (Fig. 5, 52) is disposed on said connector body (Fig. 5, 1A) in the form of a reflector top; and that the reflector body is coated with the reflector material (Col 5 Ln 20); but does not teach that the reflector body comprises a ceramic. Roberts teaches a housing body comprising ceramic (Fig. 10, 204 and Col 9 Ln 19-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the reflector

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body 52 of Ishinaga from ceramic as taught by Roberts in order to improve the heat dissipation in the device (Col 9 Ln 19-27).

Furthermore, note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Fitzgerald, 205 USPQ 594, 596 (CCPA); In re Marosi et al., 218 USPQ 289 (CAFC); and most recently, In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) all of which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. In this case the limitation wherein said connector body and said reflector body are preformed separately from each other" is a product by process limitation. Note that Applicant has burden of proof in such cases as the above case law makes clear. As to the grounds of rejection under section 103, see MPEP § 2113.

With respect to **claim 2**, note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Fitzgerald, 205 USPQ 594, 596 (CCPA); In re Marosi et al., 218

USPQ 289 (CAFC); and most recently, In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) all of which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that Applicant has burden of proof in such cases as the above case law makes clear. As to the grounds of rejection under section 103, see MPEP § 2113.

With respect to **claims 5-7**, Ishinaga teaches that the connecting conductor (Col 3 Ln 60) material is different from said reflector material (Col 5 Ln 19-23).

With respect to **claim 8**, Ishinaga teaches that the connecting conductor material contains Au (Col 3 Ln 65), but does not teach that the reflector material contains silver. Roberts teaches reflector material containing silver (Col 10 Ln 26-28). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a reflector material containing silver in the device of Ishinaga as taught by Roberts in order to increase the reflectivity of the material (Col 10 Ln 26-30).

With respect to **claim 9**, Ishinaga teaches that said housing body has cavity in which said semiconductor chip is disposed (Fig. 5, cavity formed in 52).

With respect to **claim 10**, Ishinaga teaches that said reflector body is provided with a recess (Fig. 5, recess of 52), said recess is part of the cavity of

the housing body and said reflector material (Fig. 5, 52a) is disposed on a wall of said recess.

With respect to **claim 11**, Ishinaga teaches that said reflector material is electrically insulated from said connecting conductor material (Col 5 Ln 19-23, the reflector material can be an insulating material).

Claims 4 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishinaga, in view of Wakisaka et al (U.S. PG Pub #2002/0121671).

With respect to **claim 4**, Ishinaga does not teach that said housing body contains aluminum nitride or aluminum oxide. Wakisaka teaches an aluminum nitride (Paragraph 43) for use as a housing substrate (Fig. 1B, 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use aluminum oxide in the housing body of Ishinaga in order to provide a ceramic substrate having an insulating characteristic and high heat conductivity (Paragraph 43).

With respect to **claim 22**, Ishinaga teaches an optoelectronic component comprising a housing body and at least one semiconductor chip (Fig. 5, 3A; referenced from Fig. 3) disposed thereon, said housing body having a base part comprising a connector body (Fig. 5, 1A), on which a connecting conductor material is disposed (Fig. 5, 2a/2b), and having a reflector part comprising a reflector body (Fig. 5, 52), on which a reflector material is disposed (Fig. 5, 52a), wherein said connector body and said reflector body are preformed separately

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from each other and said reflector body (Fig. 5, 52) is disposed on said connector body (Fig. 5, 1A) in the form of a reflector top; and that the reflector body is coated with the reflector material (Col 5 Ln 20); but does not teach that the reflector body comprises a ceramic. Song teaches a housing body comprising ceramic (Fig. 10, 204 and Col 9 Ln 19-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the reflector body 52 of Ishinaga from ceramic as taught by Roberts in order to improve the heat dissipation in the device (Col 9 Ln 19-27).

Furthermore, Ishinaga does not teach that said housing body contains aluminum nitride or aluminum oxide. Wakisaka teaches an aluminum nitride (Paragraph 43) for use as a housing substrate (Fig. 1B, 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use aluminum oxide in the housing body of Ishinaga in order to provide a ceramic substrate having an insulating characteristic and high heat conductivity (Paragraph 43).

Claims 12, 13, 17, 18, 20, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishinaga and Roberts, in view of Song et al (U.S. Patent #6707069).

With respect to **claims 12 and 20**, Ishinaga does not teach an insulation part disposed between said base part and said reflector part, the insulation part comprising a ceramic. Song teaches a ceramic insulation layer between a base

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part and a reflector part (Fig. 4a, 151b and Col 6 Ln 56-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a ceramic insulation layer between a base part and a reflector part of Ishinaga as taught by Song in order to provide a chip mounting area (Col 6 Ln 59-60).

With respect to **claims 13, 23, and 24**, note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hira, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Fitzgerald, 205 USPQ 594, 596 (CCPA); In re Marosi et al., 218 USPQ 289 (CAFC); and most recently, In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) all of which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that Applicant has burden of proof in such cases as the above case law makes clear. As to the grounds of rejection under section 103, see MPEP § 2113.

With respect to **claims 17 and 18**, Ishinaga does not teaches that said base part includes a heat sink. Song teaches a base for an LED chip that includes a heat sink (Fig. 4, H1) that is electrically insulated from said semiconductor chip (by part 151b). It would have been obvious to one of

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ordinary skill in the art at the time the invention was made to provide a heat sink in the base part of Ishinaga as taught by Song in order to dissipate heat from the chip.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishinaga and Roberts, in view of Harada (U.S. PG Pub #2003/0230751).

With respect to **claims 14 and 16**, Ishinaga does not teach disposed on said base part, particularly after said reflector part, is an adhesion promoting part provided with a recess that is part of the cavity of said housing body. Harada teaches an adhesion promoting part (Fig. 2, side cavities of body 4) disposed on a base part provided with a recess that is part of a cavity, and an envelop (Fig. 2, 8) that adheres better to said adhesion promoting part (due to a contact surface being larger between the envelop 8 and base 4) than it does to a reflector material (Fig. 2, 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an adhesion promoting part in the device of Ishinaga as taught by Harada in order to control the direction of the emitted light.

With respect to **claim 15**, Ishinaga teaches that disposed in the cavity is an envelop that at least partially envelops said semiconductor chip (Fig. 5, 50).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN P. SANDVIK whose telephone number is (571)272-8446. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on 571-272-1236. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ben P Sandvik/
Examiner, Art Unit 2826